

## **PROGRAM CODE**

```
#include<stdio.h>
#include<string.h>
#include<stdlib.h>
void main()
{
    FILE *f1,*f2,*f3,*f4,*f5;
    int len,i,pos=1;
    char arg[20],mne[20],opnd[20],la[20],name[20],
    mne1[20],opnd1[20],pos1[10],pos2[10];
    f1=fopen("input1.txt","r");
    f2=fopen("namtab.txt","w+");
    f3=fopen("deftab.txt","w+");
    f4=fopen("argtab.txt","w+");
    f5=fopen("op.txt","w+");
    fscanf(f1,"%s%s%s",la,mne,opnd);
    while(strcmp(mne,"END")!=0)
    {
        if(strcmp(mne,"MACRO")==0)
        {
            fprintf(f2,"%s\n",la);
            fseek(f2,SEEK_SET,0);
            fprintf(f3,"%s\t%s\n",la,opnd);
            fscanf(f1,"%s%s%s",la,mne,opnd);
            while(strcmp(mne,"MEND")!=0)
            {
                if(opnd[0]=='&')
                {
                    (pos,pos1,5);
                    strcpy(pos2,"?");
                    strcpy(opnd, strcat(pos2,pos1));
                    pos=pos+1;
                }
                fprintf(f3,"%s\t%s\n",mne,opnd);
                fscanf(f1,"%s%s%s",la,mne,opnd);
            }
            fprintf(f3,"%s",mne);
        }
        else
        {
            fscanf(f2,"%s",name);
            if(strcmp(mne,name)==0)
            {
                len=strlen(opnd);
                for(i=0;i<len;i++)
                {
                    if(opnd[i]!=';')
                        fprintf(f4,"%c",opnd[i]);
                    else
                        fprintf(f4,"\n");
                }
            }
        }
    }
}
```

```

fseek(f3,SEEK_SET,0);
fseek(f4,SEEK_SET,0);
fscanf(f3,"%s%s",mne1,opnd1);
fprintf(f5, ".\t%s\t%s\n",mne1,opnd);
fscanf(f3,"%s%s",mne1,opnd1);
while(strcmp(mne1,"MEND")!=0)
{
    if((opnd[0]=='?'))
    {
        fscanf(f4,"%s",arg);
        fprintf(f5, "-\t%s\t%s\n",mne1,arg);
    }
    else
        fprintf(f5, "-\t%s\t%s\n",mne1,opnd1);
    fscanf(f3,"%s%s",mne1,opnd1);
}
}
else
    fprintf(f5, "%s\t%s\t%s\n",la,mne,opnd);
}
fscanf(f1,"%s%s%s",la,mne,opnd);
}
fprintf(f5, "%s\t%s\t%s",la,mne,opnd);
fclose(f1);
fclose(f2);
fclose(f3);
fclose(f4);
fclose(f5);
printf("Successfull !!! \n");
f5 = fopen("op.txt", "r");
if (f5 == NULL) {
    printf("Error opening file!\n");
}
char c;
while ((c = fgetc(f5)) != EOF) {
    printf("%c", c);
}
fclose(f5);
printf("\n");
}

```

## OUTPUT

```
admin_GK@administrator52: ~/Desktop
admin_GK@administrator52:~/Desktop$ gcc macro.c
admin_GK@administrator52:~/Desktop$ ./a.out
Successfull !!!
SAMPLE  START    1000
.        EX1      N1,N2
-        LDA      ?
-        STA      ?
N1       RESW     1
N2       RESW     1
-        END      -
admin_GK@administrator52:~/Desktop$ cat input1.txt
EX1 MACRO &A,&B
- LDA &A
- STA &B
- MEND -
SAMPLE START 1000
- EX1 N1,N2
N1 RESW 1
N2 RESW 1
- END -
admin_GK@administrator52:~/Desktop$ cat op.txt
SAMPLE  START    1000
.        EX1      N1,N2
-        LDA      ?
-        STA      ?
N1       RESW     1
N2       RESW     1
-        END      -
admin_GK@administrator52:~/Desktop$ cat argtab.txt
N1
N2
admin_GK@administrator52:~/Desktop$ cat deftab.txt
EX1      &A,&B
LDA      ?
STA      ?
MEND
admin_GK@administrator52:~/Desktop$ cat namtab.txt
EX1
admin_GK@administrator52:~/Desktop$
```